

Jackson Covered Bridge
Bloomingdale Vic.
Parke County
Indiana

HAER NO. IN-48

HAER
IND,
61-BLOMD.V,
1-

REDUCED COPIES OF MEASURED DRAWINGS

Historic American Engineering Record
National Park Service
Department of the Interior
Washington D.C. 20240

ADDENDUM TO:
JACKSON COVERED BRIDGE
Spanning Sugar Creek, CR 775N (Changed from Spanning Sugar
Creek)
Bloomingdale vicinity
Parke County
Indiana

HAER IN-48
IND,61-BLOMD.V,1-

PHOTOGRAPHS

PAPER COPIES OF COLOR TRANSPARENCIES

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

HISTORIC AMERICAN ENGINEERING RECORD

ADDENDUM TO JACKSON COVERED BRIDGE

HAER No. IN-48

LOCATION: Spanning Sugar Creek at County Road 775N, Bloomingdale vicinity,

Parke County, Indiana

UTM: 16.475850.4414280, Kingman, Indiana, Quadrangle

STRUCTURAL

TYPE: Burr through truss covered bridge

DATE OF

CONSTRUCTION: 1861

DESIGNER/

BUILDER: Joseph J. Daniels, Rockville, Indiana

OWNER: Parke County, Indiana

PRESENT USE: Vehicular bridge

SIGNIFICANCE: Jackson Bridge is the oldest surviving example of the work of J.J. Daniels, one of Indiana's most prolific covered bridge builders. It is an outstanding example of the truss system patented by Theodore Burr in 1806. With a span of 207', the Jackson Bridge is the nation's longest single span covered bridge that still carries vehicular traffic.

HISTORIAN: Researched and written by Lola Bennett, October 2003

PROJECT

INFORMATION: The National Covered Bridges Recording Project is part of the Historic American Engineering Record (HAER), a long-range program to document historically significant engineering and industrial works in the United States. HAER is administered by the Historic American Buildings Survey/Historic American Engineering Record, a division of the National Park Service, U.S. Department of the Interior. The Federal Highway Administration funded the project.

Chronology

- 1805 America's first covered bridge built at Philadelphia
- 1806 Theodore Burr patents Burr truss
- 1816 Indiana becomes nineteenth state admitted to the Union
- 1821 Parke County created
- 1826 J.J. Daniels born in Marietta, Ohio
- 1861 J.J. Daniels builds Jackson Bridge
- 1863 J.J. Daniels repairs and adjusts Jackson Bridge
- 1913 Jackson Bridge repaired following tornado
- 1916 J.J. Daniels dies in Rockville, Indiana
- 1957 Parke County Covered Bridge Festival organized
- 1974 Jackson Bridge recommended for replacement
- 1977 Jackson Bridge rehabilitated at a cost of \$75,000
- 1978 Jackson Bridge listed on the National Register of Historic Places
- 1984 Jackson Bridge repaired
- 1989 Jackson Bridge roof replaced following windstorm
- 2003 Jackson Bridge recorded by the Historic American Engineering Record
- 2004 Jackson Bridge rehabilitated

Introduction

With thirty covered bridges, the most of any county in the United States, Parke County, Indiana, is known as “The Covered Bridge Capital of the World.” The majority of these are Burr arch trusses built by J.J. Daniels (1826-1916) or J.A. Britton (1839-1929).¹ The continued survival of many of these structures is due in part to the enduring craftsmanship of the builders, in part to the county’s rural heritage that spared many covered bridges from replacement, and in part to ongoing local preservation efforts and promotion of these bridges as tourist attractions. Since 1957, the Parke County Covered Bridge Festival has attracted thousands of tourists and covered bridge fans annually, giving the county added incentive to invest in preservation efforts

The Jackson Bridge is the oldest and longest surviving example of the work of J.J. Daniels, a prolific Indiana bridge builder, who built nearly sixty covered bridges in Indiana between 1855 and 1900.² With a span of 207’, the Jackson Bridge is the third longest single-span covered bridge in the United States, and the longest single span covered bridge that still carries vehicular traffic.

Description

The Jackson Bridge is a single-span Burr arch truss covered bridge on cut and dressed stone masonry abutments. The overall length of the bridge is 225’ with a reported clear span of 200’.³ The truss is approximately 19’ high from the bottom of the lower chord to the top of the upper chord, and 21’ wide overall, with a 16’ roadway.

The truss is framed as a multiple kingpost structure, with eighteen 11’ wide panels and a 9’ wide shelter panel at each end. The upper chord consists of three lines of timbers (that appears to be an 8”x12” timber flanked by 8”x8” timbers), blocked and bolted together. The lower chord appears to be the same configuration as the upper chord, except with 10”x12” timbers flanked by 8”x12” timbers. The chords are connected by paired posts and braces bolted with 3/4”-diameter bolts. There are four endposts at each corner, except the northwest corner where there is a single metal endpost. The vertical posts are tapered timbers (7”x12” at their widest point), which are smaller at the top and bottom where diagonals notch into them. The diagonal braces are 7”x9” timbers angling up toward the center of the span. The diagonals are notched into the upper and lower ends of the posts. A pair of arches flanks each

¹ For more on J.A. Britton, see HAER No. IN-103, Pine Bluff Bridge.

² Eugene R. Bock, “The Covered Bridge and Indiana,” *Indiana History Bulletin* 37, no. 5 (1960): p. 11.

³ Most sources give 207’ as the span length, which appears to be the structure length exclusive of shelter panels. According to the existing HAER measured drawings, the span of the arch is 200’-5”. An elevation reportedly of this span, but simply labeled, “Burr Bridge B,” in the collection of the Indiana Historical Society, notes the length as “200 feet span in clear.” See Stan Sinclair, *Illustrated Guide to Parke County Covered Bridges* (Rockville, IN, 1991), p.68; and Georg E. Borum, *Guide to the Covered Bridges of Parke County* (Rockville: Museum of Covered Bridges, 1971), p.28.

truss. The arches spring from new poured concrete seats on the abutments about 5' below the lower chord, rise 25' to the crown, and span 200'-5".

The deck system is composed of transverse 4"x11" floor beams seated on the lower chord at approximately every 3-1/2'. There are sixteen lines of 3"x5-1/2" stringers on top of the deck beams. Plank decking (approximately 2"x8"; varies) is laid transversely on the stringers. There are longitudinal running boards (each composed of five lines of 2"x8" boards) on top of the decking. The lower chords rest on bed timbers on the abutment seats.

The lateral bracing is composed of tie beams (appear to be 6"x12") seated on the upper chord at each panel point. There is 5"x5" X-bracing lateral bracing notched into the tie beams. A longitudinal timber supported on the outer ends of the tie beams supports the lower ends of the rafters. The 2"x4" rafters are spaced at approximately 2'. There is no ridge beam. The gable roof has exposed rafters and is covered with corrugated sheet metal fastened to purlins on the rafters. There is 4"x6" sway bracing crossing diagonally between the upper chords and the vertical posts.

The bridge is covered with clapboard sliding to about 2' below the eaves. The clapboards are fastened to 2"x3" vertical nailers, which are spaced approximately 2' apart and fastened to three 3"x4" longitudinal nailers on the outer faces of the trusses. There are five framed window openings (approximately 22"x32") on each side of the bridge. Some of the windows have hoods. The portals are straight with arched openings flanked by engaged pilasters. Decorative lettering over the portals reads "Jackson Bridge, J.J. Daniels Builder, 1861." A stone in the southwest abutment is engraved with the words: "Builder J.J. Daniels 1861."

History

In 1848, Prior Wright established a flour mill at this site on Sugar Creek. After a number of other mills and a boatyard were established here in the mid-nineteenth century, a small industrial hamlet and trading center developed, and the location became known as Rockport Mills.⁴ Prior to a bridge being built here, people crossed the river at the "Lower Ford," located approximately 100 yards west of the present bridge site.⁵

On December 28, 1860, the Parke County Commissioners met to consider petitions for a bridge across Sugar Creek at Wright's Upper Mills (this site) and another at Star Mills (site of West Union Bridge).⁶ The petitions were approved and on January 1, 1861, the commissioners made two appropriations of \$8,000 each, the balance to be raised by

⁴ J.H. Beadle, "History of Parke County," in H.W. Beckwith's *History of Vigo and Parke Counties* (Chicago: H.H. Hill and N. Iddings, 1880), p.280. See also A.T. Andreas, *Atlas Map of Parke County, Indiana* (Chicago, 1874), plate 82; and A.C. Howell, *Atlas of Parke County, Indiana* (1876). Rockport declined rapidly after being bypassed by the railroad.

⁵ Sinclair, p.68.

⁶ Parke County Commissioners Records, Book 5, 1858-64, p.205-206. See also HAER No. IN-105, West Union Bridge.

subscription for “a bridge across Sugar Creek in said county at the Star Mills and ... a bridge across Sugar Creek at the Rockport Mills (called Wright’s Upper Mills) in said county, said bridges to be built on the same plan.”⁷ Bids opened on March 6, and the commissioners awarded both contracts to Joseph’s brother, William D. Daniels, “as per plans and specifications submitted by J.J. Daniels his agent.”⁸

The masonry abutments were completed by September 1861, and W.D. Daniels was paid \$6,000 for the work subcontracted to Brown and Company. The Jackson Bridge was completed in November 1861. Daniels was paid \$1,500 upon its acceptance by the county commissioners.

Jackson Bridge continues to carry traffic, 150 years after its construction. It withstood a tornado in 1913 as well as several major floods.⁹ Jackson Bridge was rehabilitated in 1977. An engineering report states that prior to this work, the bridge was “a near basket case.”¹⁰ The lower chord members were completely rotted, the lower chord was broken toward the center of the west truss, and the skewbacks were cracked and shifting. The reconstruction consisted of rebuilding the floor system and repairing the ends of the arches and the abutments. The roofing and siding were also repaired. Work took nearly a year to complete and cost \$75,000. In 1998 Parke County received an Intermodal Surface Transportation Efficiency Act (ISTEA) grant to rehabilitate Jackson Bridge in 2004.

Design

Theodore Burr (1771–1822) is a significant figure in the history of covered bridge building. He built his first bridge in 1801 near his sawmill in Chenango County, New York, and subsequently experimented with a wide variety of timber arch designs for bridges that spanned the Hudson, Mohawk, Delaware and Susquehanna rivers. His masterpiece was the short-lived 360’ McCall’s Ferry Bridge (built 1815; destroyed by ice 1818), the longest timber bridge span ever built. Burr’s greatest contribution to bridge building, however, was his design for an arch-reinforced truss with a level deck that he patented in 1806 and 1817.

The Burr truss was popular in the mid-nineteenth century for long-span railroad and roadway bridges and thousands of such bridges once existed. Unfortunately, Burr was not a shrewd businessman, and he suffered financial setbacks by accepting company stock in payment and then not being able to pay back his creditors. He died suddenly and mysteriously while supervising construction of a bridge at Middletown, Pennsylvania, and is reportedly buried in an unmarked grave somewhere in central Pennsylvania.

⁷ *Parke County Republican*, January 9, 1861, p.2.

⁸ Parke County Commissioners’ Records, Book 5, p.240.

⁹ Juliet Snowden, *Covered Bridges of Parke County*, 2nd. ed. (1981), p.22.

¹⁰ Parke County Engineering Department files.

Builder

Joseph John Daniels was born in 1826 in Marietta, Ohio. His father, Stephen Daniels, was a carpenter and an agent of Col. Stephen H. Long.¹¹ Working alongside his father, J.J. Daniels learned how to build bridges and, by 1847, had successfully landed contracts on his own. A prolific bridge builder, J.J. Daniels utilized standard truss plans, but was particularly fond of the Burr truss. He also used iron components in his bridges as early as 1861.¹² Daniels is credited with the construction of sixty bridges in Indiana and many others in Ohio and Kentucky.¹³ Daniels built his last bridge across Little Raccoon Creek in Parke County in 1904. J.J. Daniels died in 1916 in Rockville, Indiana, at the age of 90. Of the estimated sixty covered bridges built by Daniels, there are nineteen still standing and seven still in use:

14-61-28	Jackson Bridge	Parke County, IN	1861	1 span	207'	Burr truss	
14-61-09	Roseville Bridge	Parke County, IN	1866	2 spans	280'	Burr truss	
14-61-20	Mansfield Bridge	Parke County, IN	1867	2 spans	275'	Burr truss	
14-36-04	Medora Bridge	Jackson County, IN	1875	3 spans	459'	Burr truss	Closed
14-83-02	Hillsdale Bridge	Vermillion County, IN	1876	1 span	125'	Burr truss	Moved 1973
14-36-02	Shieldstown Bridge	Jackson County, IN	1876	2 spans	358'	Burr truss	Closed
14-61-27	West Union Bridge	Parke County, IN	1876	2 spans	315'	Burr truss	Closed
14-54-03	Deer's Mill Bridge	Montgomery County, IN	1878	2 spans	275'	Burr truss	Closed
14-83-02	South Hill Bridge	Vermillion County, IN	1879	1 span	122'	Burr truss	Closed

¹¹ For more on Col. Stephen Long, see HAER No. OH-122, Eldean Bridge.

¹² Wayne M. Weber, *Covered Bridges in Indiana* (Midland, MI: Northwood Institute, 1977), 38; and Parke County Commissioners' Records, vol. 5, (Rockville, IN: Parke County Courthouse, 1863), 415.

¹³ Eugene R. Bock, "The Covered Bridge and Indiana," *Indiana History Bulletin* 37, no. 5 (1960): p. 11.

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14-47-02	Williams Bridge	Lawrence County, IN	1884	2 spans	357'	Howe truss	
14-83-04	Newport Bridge	Vermillion County, IN	1885	1 span	205'	Burr truss	Closed
14-83-05	Eugene Bridge	Vermillion County, IN	1885	1 span	212'	Burr truss	Closed
14-61-13	Mecca Bridge	Parke County, IN	1873	1 span	178'	Burr truss	Closed
14-61-	Billie Creek Bridge	Parke County, IN	1895	1 span	77'	Burr truss	Moved
14-61-26	Melcher Bridge	Parke County, IN	1896	1 span	83'	Burr truss	
14-67-10	Oakalla Bridge	Putnam County, IN	1898	1 span	180'	Burr truss	
14-61-01	Big Rocky Fork Bridge	Parke County, IN	1900	1 span	88'	Burr truss	Closed
14-67-02	Hillis Bridge	Putnam County, IN	1901	1 span	147'	Burr truss	
14-61-18	Neet Bridge	Parke County, IN	1904	1 span	151'	Burr truss	Closed

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